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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,441	04/22/2005	Benjamin N Peace	17638-004US1	7469

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EXAMINER
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LAIOS, MARIA J

ART UNIT	PAPER NUMBER
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1753

MAIL DATE	DELIVERY MODE
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08/09/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/509,441

Applicant(s)

PEACE ET AL.

Examiner

Maria J. Laios

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6-9, 11-18, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 4, 10 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 7 February 2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: Misspelling of There is on page 2 line 15.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 6 - 8 and 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The term "substantial" in claims 6 and 17 is a relative term which renders the claim indefinite. The term "substantial" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

5. The term "at a lower position" in claim 1 is a relative term, which renders the claim indefinite. The term "at a lower position" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would

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not be reasonably appraised of the scope of the invention. It is unclear what reference point is used in the assembly when the term "at a lower position" is applied.

Claims depending on claims rejected under 112 second paragraph are also rejected for the same.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 6, 11-13, 16, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Bisaka et al. (US 2002/0034673 A1).

With regard to claim 1, Bisaka et al. discloses a fuel cell compression assembly, comprising a carriage unit having two opposing side walls (24) maintained in spaced relation by a base member (22B) extending between the side walls, where in the two opposing side walls and the base member define a cradle for receiving fuel cell plates (19) and wherein the two opposing side walls each include one engagement member (29) on the internal face for engaging with a top member of the carriage unit (22A).

With regard to claims 2 and 3, Bisaka et al. discloses the compression unit assembly wherein the opposing side walls comprise a plurality of corresponding engagement members, teeth projecting inwards, spaced at intervals down the two opposing sidewalls (29, Figure 7).

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With regard to claim 6, Bisaka et al discloses the engagement members (29) comprise parallel ribs extending along the lateral extent of the sidewalls (Figures 7 and 8).

With regard to claim 11, Bisaka et al. discloses the compression assembly wherein the top member (22a) comprises at least two corresponding engagements members (29) of these mate with their corresponding surfaces on the sidewalls.

With regard to claim 12, Bisaka et al. discloses the engagement member (29) is in recess of sidewall (24), Figure 7).

With regard to claim 13, Bisaka et al discloses the top member (22A) is received into on or more recesses of the sidewalls (there are 5 mated surfaces between the top member and the sidewalls, Figure 7).

With regard to claim 16, the compression assembly further includes location features on external walls of the assembly (Figure 24, 24A contains screws 42 as the location features).

With regard to claims 20 and 21 Bisaka et al discloses the method of forming a fuel cell stack comprising receiving a plurality of fuel cell plates (23) into a confinement volume of a carriage unit cradle (24,22B) the fuel cell plates (23) forming a stack (Figure 7), applying a carriage unit closure member (22A) to compress the fuel cell plates in a first direction (Figure 7, tightening

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force) orthogonal to a plane of the fuel cell plates and to engage the closure member with the carriage unit cradle and automatically locking the closure member and the cradle when the closure member reach is a predefined degree of compression of the fuel cell plates and the tightening force (Figure 7) passing through a series of successive automatic locking engagement positions (29) between the closure member and the cradle until an appropriate degree of compression is reached (Abstract).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bisaka et al. (US 2002/0034673 A1).

The disclosure of Bisaka et al as discussed above is incorporated herein.

With regard to claim 17, Bisaka et al. discloses a fuel cell compression assembly comprising a carriage unit cradle (24,22B) for receiving a stack of fuel cell plates (23) that overlap and a closure member (22a). It is the examiners position that this claim is a product by process claim and as such the cradle is capable of receiving fuel cell plates (figure 7), the closure member (22A) will mate and lock once pressure is applied to the engagement (29).

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With regard to claim 18, Bisaka et al discloses bolts (25) will inhibit the movement of the closure member (22A).

10. Claims 5, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bisaka et al. (US 2002/0034673 A1) in view of Hamada et al. (US 5,314,762).

With regard to claims 14 and 15, Bisaka discloses the material for the carriage unit and the top member as stainless steel, iron, or engineering plastics (paragraph 105) but fails to disclose the possibility of aluminum, which would allow for sufficient resilience. Hamada et al. discloses a fuel cell system in which the case and lid are made from aluminum in order for it to be lightweight (col. 2 lines 57-60).

It would have been obvious to one of ordinary skill in the art to make the carriage unit and the top member of aluminum in order for it to be lightweight.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bisaka et al. (US 2002/0034673 A1) in view of Takeshi (JP-09-092324).

With regard to claim 9, Bisaka discloses the compression assemble as disclosed above and incorporated herein, but fail to show the apertures for ventilation, Takeshi et al discloses a module in which there are slits available for fluid communication (Paragraph 33). It would have been obvious to include the slits of Takeshi in the compression unit of Bisaka for means of fluid communication.

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*Allowable Subject Matter*

12. Claims 4, 10 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claim 7 and 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The closest prior art of record, Bisaka et al, does not teach or suggest, the distinguishing features of the teeth as having an asymmetric profile allowing passage of the top member in one direction (applies to claims 4, 7, 8 and 10) or interlocking teeth that provide a plurality of automatic lockup portion at varying distances along the first direction (applies to claim 19).

*Conclusion*

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria J. Laios whose telephone number is 571-272-9808. The examiner can normally be reached on Monday - Thursday 9:30 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJL

*mjl*

*Susy Tsang-Foster*  
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PRIMARY EXAMINER